The Northeast - Southeast - Midwest Corridor Marketing Study

Final Report

December 18, 2003

Karen J. Rae

Presentation Outline

- Previous Studies
- Goals
- Study Process
- Current Situation
- Future Scenario
- Assumptions
- Study Results

Previous Studies - *A Little History*

HJR 704 - Virginia Intermodal Feasibility Study (2001)

- Most of the trucks traveling more than 500 miles are passing through Virginia
- Intermodal facilities needed outside of Virginia

Previous Studies - *A Little History*

SJR 55 Diversion Study (2001)

- Potential diversions : 10% - 25%
- Need both I-81 highway improvements and rail improvements
- Look at improvements to alternate rail routes – Piedmont line (Rte 29 corridor)
- Detailed market analysis needed
- Analysis should be multi-state

I-81 Marketing Study Goal

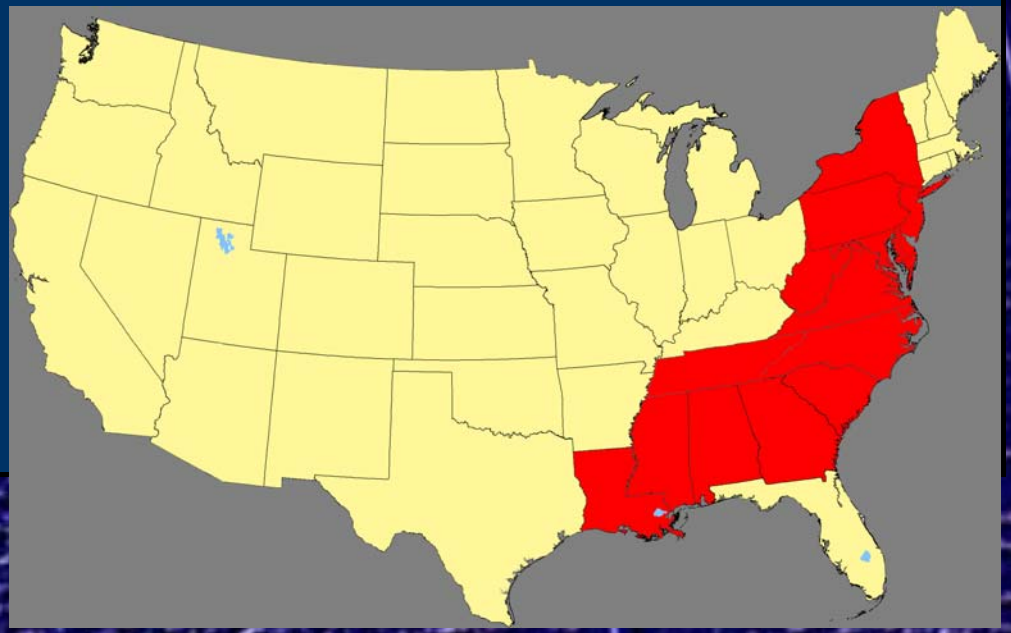
- **Return on Investment Analysis**
  - Survey of shippers, freight forwarders and truckers to access their potential to use rail and under what conditions
  - Estimate potential diversions
  - Estimate of the rail needs to serve the potential diversions

I-81 Marketing Study Process

- Service Design and Diversion Analysis (Operations)
- Capital Investment Options
  - Multi-State Corridor
  - VA Only
- Diversion Rates (Current and Future)
  - Multi-State Corridor
  - VA Only

I-81 Marketing Study Area

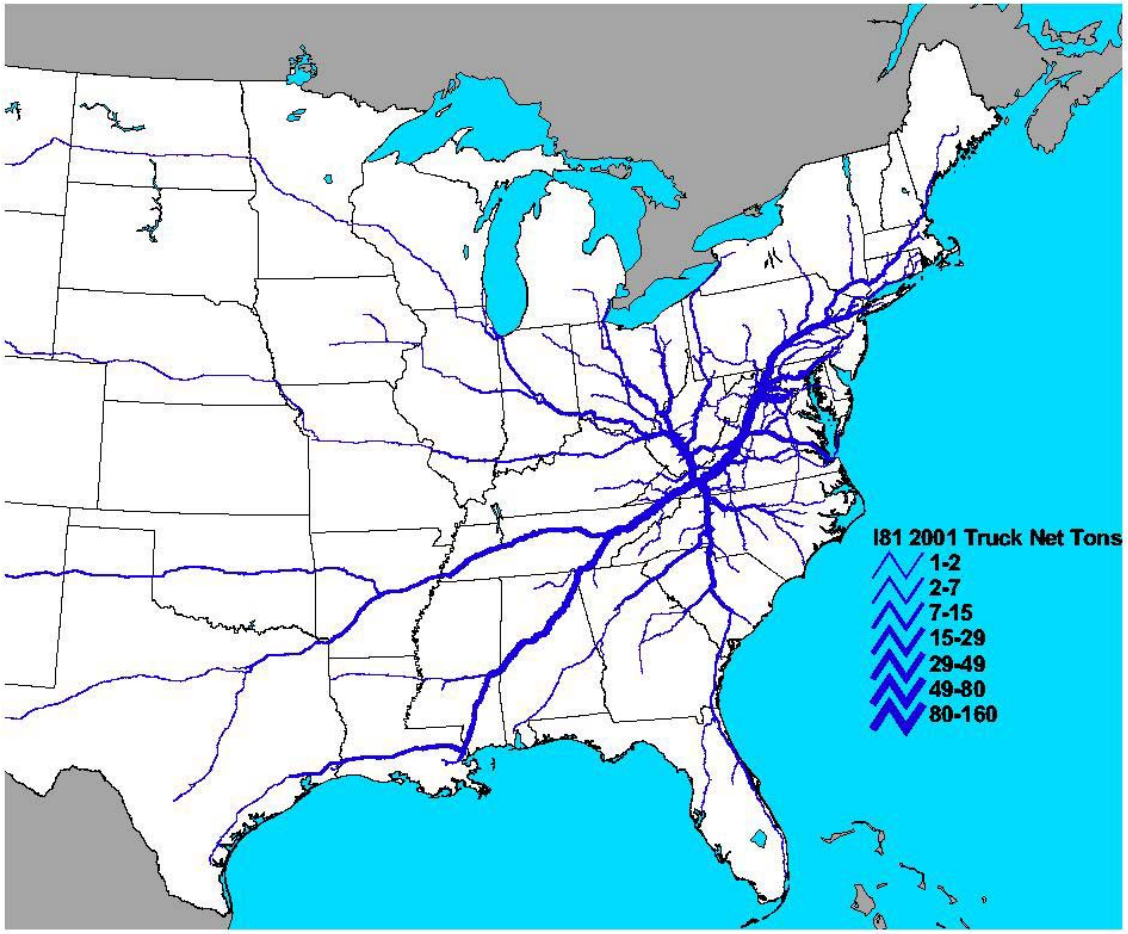
- New Jersey, Maryland, West Virginia, Virginia, North Carolina, South Carolina, Tennessee, Georgia, Alabama, Mississippi, Louisiana, Delaware, Pennsylvania, New York
- Shippers
- Freight Forwarders
- Motor and Rail Carriers



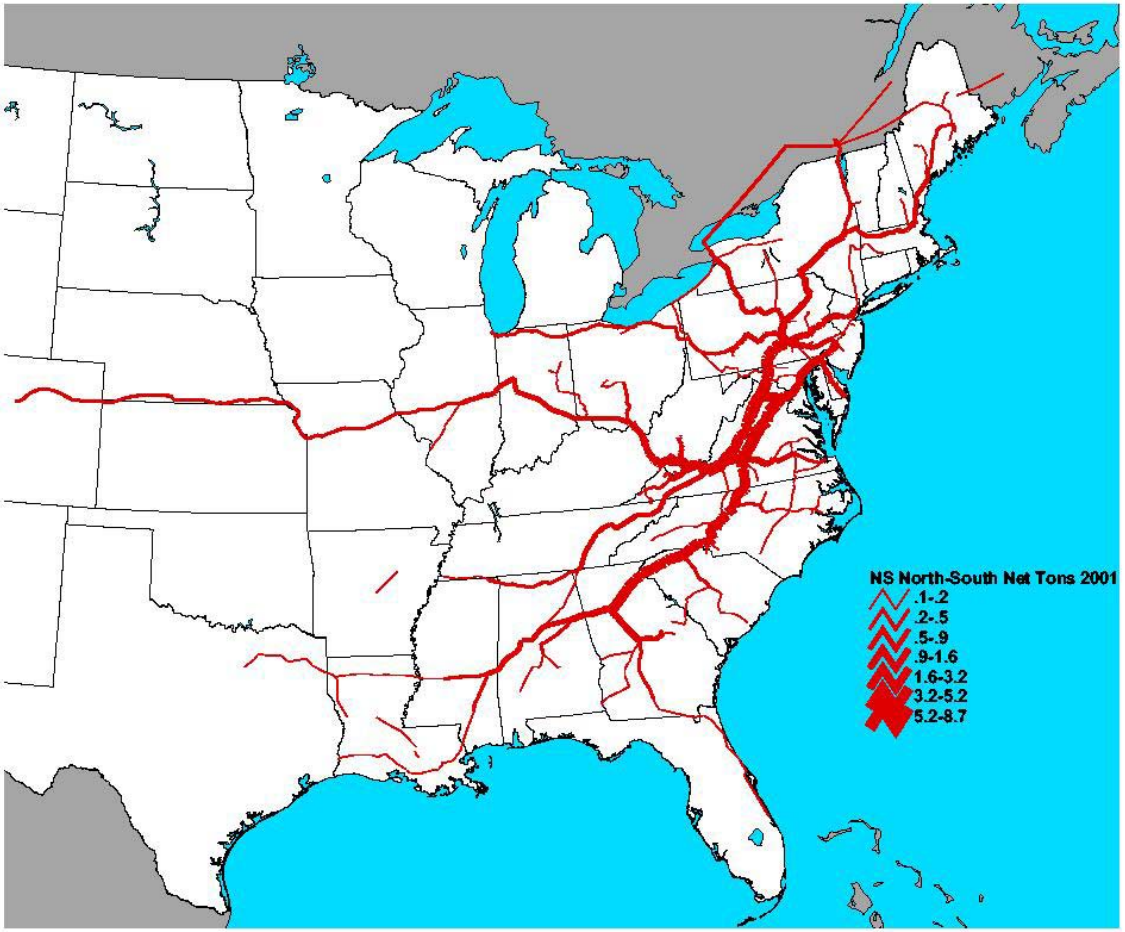
Issues, Limitations and Risks

- Alternative Scenarios
  - Multi-State Corridor
  - Virginia Only
- Capital Cost
- Public Benefits
- Local Resistance
- Addressable Market
- Carrier Performance

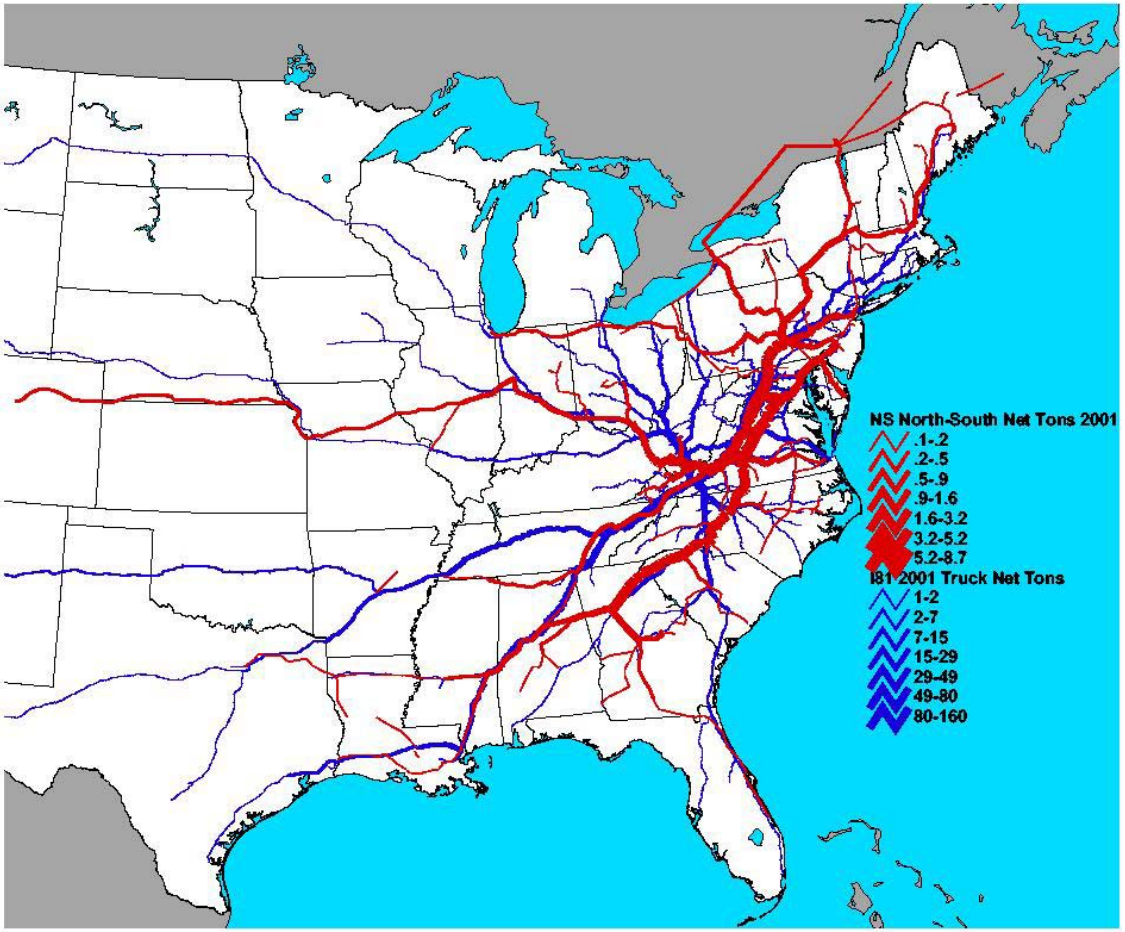
Current Situation - I-81 Truck Flow



Current Situation - I-81 Rail Flow

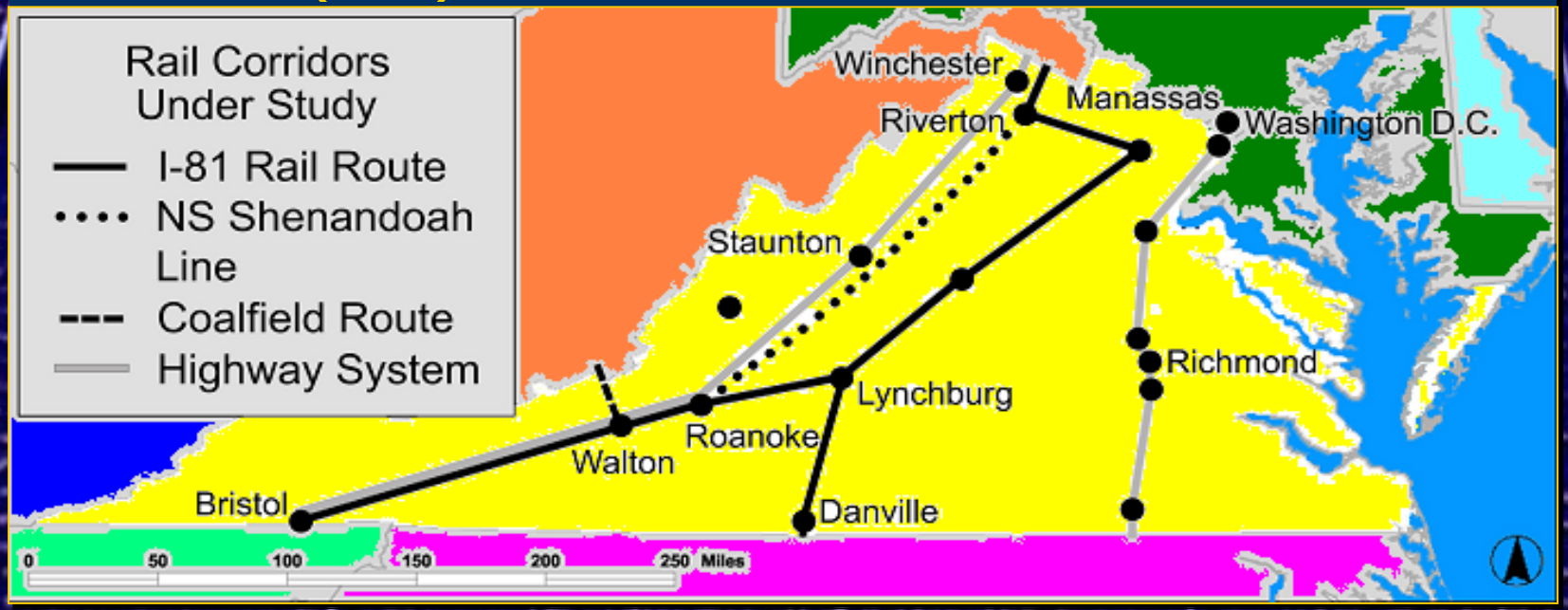


Current Situation - I-81 Truck/Rail



I-81 Marketing Study Rail Corridor - Virginia

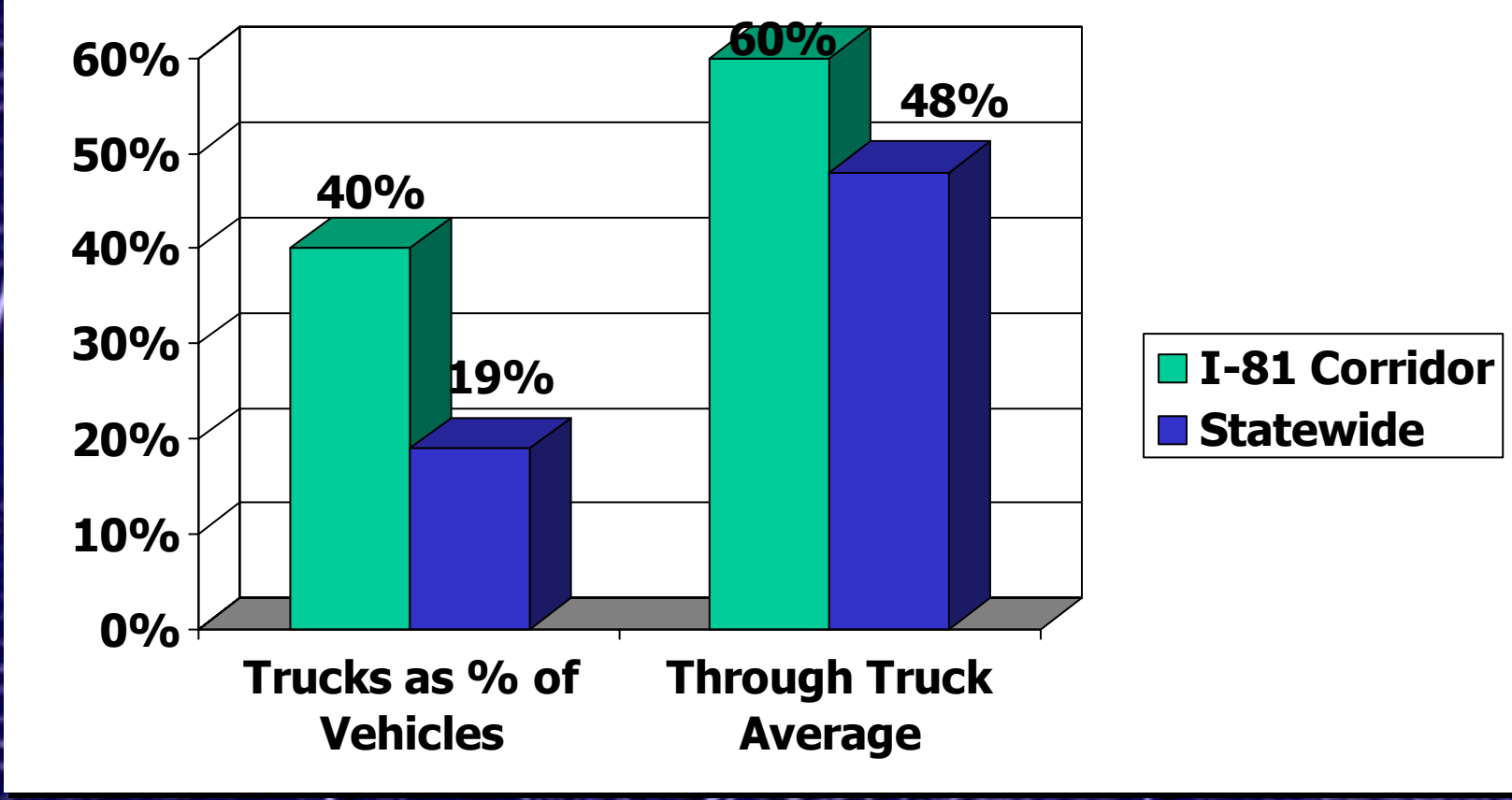
- Multiple Rail Routes Parallel I-81
  - Shenandoah (NS)
  - Piedmont (NS)
  - I-95 (CSX)



I-81 Current Mix of Traffic

- 40% of vehicles on I-81 are trucks vs. 19% on the rest of the Interstate system in Virginia
- 60% of truck traffic travels through Virginia on I-81 vs. 48% on the rest of the Interstate system in Virginia
- 5% of I-81 corridor freight traffic moves by rail intermodal
- Northward freight flow nearly twice southward flow

I-81 Current Mix of Traffic



2020 Future Scenario (With No Improvements)

- Truck Traffic Increase of 90%
- Rail Share
  - Currently 5%
  - Can not increase without improvements
  - Without additional investment, rail share will shrink
- Growth for I-81 Corridor
  - Freight traffic expected to increase 79 - 90%

Assumptions in Diversion Analysis

- Adequate capital financing can be procured, and multi-state cooperation organized as necessary
- Local resistance does not preclude growth in rail traffic
- An "Open" Intermodal technology will be employed in the study corridors

Assumptions in Diversion Analysis

- Railroads will offer and maintain competitive service performance in the study corridors
- Railroads will offer compelling cost reductions to shippers and/or carriers currently operating on the study corridors
- Available infrastructure sufficient to accommodate identified traffic growth

Assumptions in Diversion Analysis

- Historical patterns of intermodal market penetration are an appropriate measure of projected penetration for lanes of similar density and distance
- The Virginia DOT-approved "No-Build" scenario for I-81 remains in place, and truck tolls are not imposed
- Proposed changes to Federal Hours of Service motor carrier regulations ultimately are implemented

Study Results

- Multi-State Corridor
- Virginia Only

$$\text{Return on Investment} = \frac{\text{Capital Cost}}{\text{Diversion Rate}}$$

Results of Study - Multi-State Corridor

Medium Term Capital Investment - Total For NS Corridors

Medium Term Investment	Capacity and Speed Improvements	Terminal Expansion and Construction	Rolling Stock Acquisition	Total
Public Investment Scenario	(Millions)	(Millions)	(Millions)	(Millions)
Low	$1,974	$339	$337	$2,649
High	$2,153	$339	$354	$2,846

Medium Term Diversions - Total For NS Corridors

Medium Term Annual Impact	Annual Loads Diverted Total Corridor[iii]	Percent of VA I-81 AADTT Diverted	VA I-81 Truck VMT Diverted (Millions)
Public Investment Scenario[iv]			
Low	670,000	13.7%	179.6
High	720,000	14.6%	190.5

Results of Study - Multi-State Corridor

Long Term Capital Investment - Total For NS Corridors

Long Term Investment	Capacity and Speed Improvements	Terminal Expansion and Construction	Rolling Stock Acquisition	Total
Public Investment Scenario	(Millions)	(Millions)	(Millions)	(Millions)
Low	$5,841	$507	$985	$7,333
High	$6,372	$507	$1,020	$7,899

Long Term Diversions - Total For NS Corridors

Long Term Annual Impact	Annual Loads Diverted Total Corridor	Percent of VA I-81 Forecast AADTT Diverted	VA I-81 Truck VMT Diverted (Millions)
Public Investment Scenario			
Low	2,790,000	28.2%	759.1
High	3,000,000	30.3%	811.9

Results of Study - Virginia Only

Medium Term Capital Investment - Total For NS Corridors

Medium Term Investment	Capacity and Speed Improvements	Terminal Expansion and Construction	Rolling Stock Acquisition	Total
Public Investment Scenario	(Millions)	(Millions)	(Millions)	(Millions)
Low	$242	$21	$229	$492
High	$242	$21	$238	$501

Medium Term Diversions - Total For NS Corridors

Medium Term Annual Impact	Annual Loads Diverted Total Corridor	Percent of VA I-81 AADTT Diverted	VA I-81 Truck VMT Diverted (Millions)
Public Investment Scenario			
Low	474,000	9.8%	132.7
High	501,000	10.4%	143.5

Results of Study - Virginia Only

Long Term Capital Investment - Total For NS Corridors

Long Term Investment	Capacity and Speed Improvements	Terminal Expansion and Construction	Rolling Stock Acquisition	Total
Public Investment Scenario	(Millions)	(Millions)	(Millions)	(Millions)
Low	N/A	N/A	N/A	N/A
High	N/A	N/A	N/A	N/A

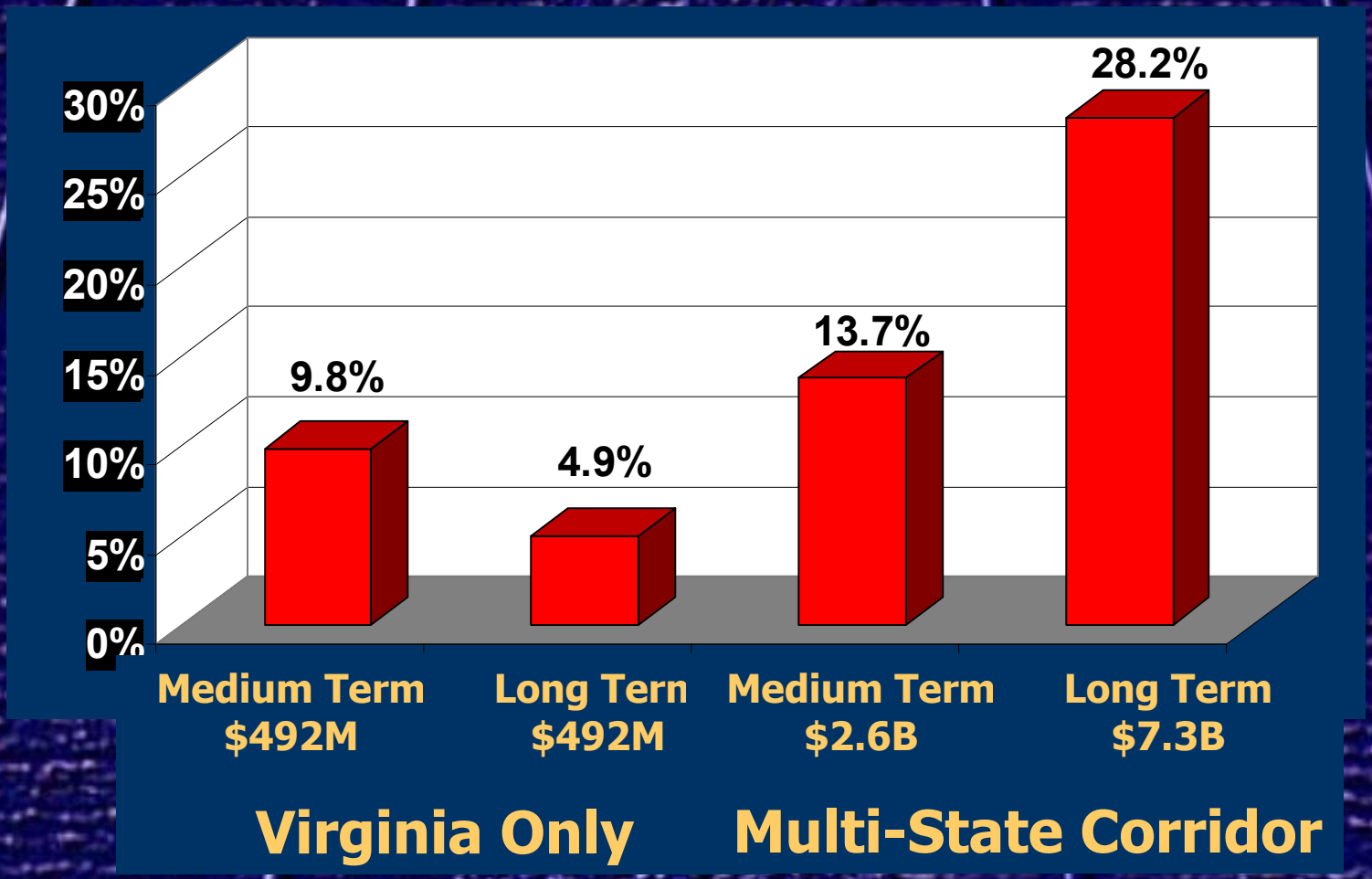
No Continued Long Term Investments

Long Term Diversions - Total For NS Corridors

Long Term Annual Impact	Annual Loads Diverted Total Corridor	Percent of VA I-81 Forecast AADTT Diverted	VA I-81 Truck VMT Diverted (Millions)
Public Investment Scenario			
Low	474,000	4.9%	132.7
High	501,000	5.2%	143.5

Equals Loss of Market Share Over Time

Results of Study - All Scenarios



Train Volume Increases - NS Lines

- Current Train Volumes
  - 22-27 Trains
- Short-Term/Virginia Only Investment
  - 6-12 Train Increase
- Long-Term/Corridor Investments
  - 22-98 Train Increase (Depending on Segment)

Study Conclusions

- Diversion of Freight from Highway to Rail Will Take Place
  - Depends on investment
  - Depends on railroad's success (marketing and service)
  - Without Long Term Investment, rail market share will decrease over time
- Trucks on I-81
  - Expected to increase even with significant (3M) diversions to rail

Policy Discussion Issues

- Tradeoff between "Virginia Only" and "Multi-State Corridor" improvements
- What are appropriate levels of public/private cost sharing
- Community impacts of rail freight increases inside and outside the I-81 corridor
- How to protect public investment in private right-of-way
- How to assess tradeoff of highway vs. rail investment - designing the right transportation system

PPTA Comparison (Virginia)

	Diversions	Track Cost	Intermodal Facilities/ Equipment Cost
Reebie*	474K (9.8%)	$242M	$250M
Fluor	550K	$132 - 170M	N/A
Star Solutions	560K	$111M	N/A

* Does not include terminal or infrastructure improvements outside of Virginia

Questions

This report available on-line at www.drpt.state.va.us